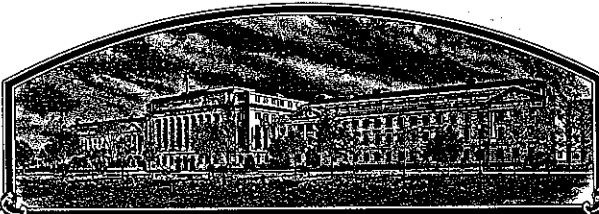


No.

8200103



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Germain's, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREBY ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THEREOF IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

DURUM WHEAT

'D-5003

In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington, D.C.
this 23rd day of September in
the year of our Lord one thousand nine
hundred and eighty-two

Attest:

Kenneth A. ...

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1. VARIETY NAME OR TEMPORARY DESIGNATION D-5003	2. KIND NAME Durum Wheat	FOR OFFICIAL USE ONLY PVPO NUMBER 8200103	
3. GENUS AND SPECIES NAME Triticum durum	4. FAMILY NAME (Botanical) Gramineae	FILING DATE 4/14/82	TIME 10 A.M. P.M.
	5. DATE OF DETERMINATION June 19, 1979	FEE RECEIVED \$500.00	CHARGES \$250.00 7/19/82
6. NAME OF APPLICANT(S) Germain's, Inc.	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) P. O. Box 12447 Fresno, CA 93777		8. TELEPHONE AREA CODE AND NUMBER 209-233-8823
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation	10. STATE OF INCORPORATION California		11. DATE OF INCORPORATION 5/24/09
12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers: Nathan A. Johnson, Director of Research Germain's, Inc. P. O. Box 12447 Fresno, CA 93777			

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 12A. Exhibit A, Origin and Breeding History of the Variety (See Section 52, P.L. 91-577)
- ☒ 12B. Exhibit B, Botanical Description of the Variety
- ☒ 12C. Exhibit C, Objective Description of the Variety
- ☒ 12D. Exhibit D, Data Indicative of Novelty
- ☒ 12E. Exhibit E, Statement of the Basis of Applicant's Ownership

No foreign applications**4/27/82**

The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable. (See Section 52, P.L. 91-577).

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? (See Section 83(a), P.L. 91-577) (If "Yes," answer 14B and 14C below.) ☒ YES ☐ NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations?

☒ YES ☐ NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed?

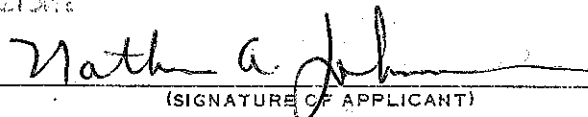
Foundation, Registered, Certified

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act (P.L. 91-577).

April 1, 1982

(DATE)



(SIGNATURE OF APPLICANT)

PLANT VARIETY PROTECTION ACT

(DATE)

(SIGNATURE OF APPLICANT)

8200103

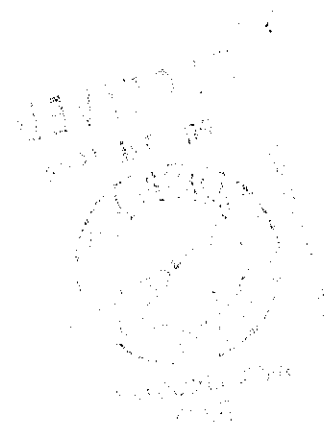


EXHIBIT A

Origin and Breeding History

1. D-5003 originated from an F₂ Bulk population from the CIMMYT Wheat program in Mexico in 1975. The pedigree of D-5003 is unknown.
2. Successive generations and selections were grown at Fargo, North Dakota and Yuma, Arizona.
3. Initial yield test began in 1978 with subsequent yield testing in the University of California Regional Yield Trials throughout California from 1979 to 1981 (data attached) demonstrating superior yield advantage over all other Durums tested.
4. The variety D-5003 has been ^{genetically and uniform} stable ^A for the last three generations and remains the same when reproduced. *D-5003 has no variants.*

B 4/27/82



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EXHIBIT B

Botanical Description

Height: Short statured, 8 to 12 cm. shorter than Mexicali 75.

Straw Strength: Very good straw strength with resistance to lodging. Superior to Mexicali 75.

Heading Time: Similar to Mexicali 75.

Grain Type: Hard amber durum, although a high susceptibility to Yellow Berry (40% - 70%) can be expected with D-5003 when grown in the Central Valley of California and Arizona.

Spike Characteristics: Fully awned, white glumes. Awns are black and become lighter when mature with the lower half of awn remaining black when mature.

Shatter Resistance: Good shatter resistance. Slightly superior to Mexicali 75.

Disease Reaction: Although not specifically tested for disease, no disease problems were observed during the last four years of testing throughout California and Arizona.

FORM GR-470-6
(2-15-73)UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY

WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Germain's, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

P. O. Box 12447

Fresno, CA 93777

FOR OFFICIAL USE ONLY

PVPO NUMBER

8200103

VARIETY NAME OR TEMPORARY
DESIGNATION

D- 5003

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g. or) when number is either 99 or less or 9 or less.

1. KIND:

 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

 1 = SPRING 2 = WINTER 3 = OTHER (Specify) 1 = SOFT 2 = HARD 3 = OTHER (Specify) 1 = WHITE 2 = RED 3 = OTHER (Specify) Amber

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

 FIRST FLOWERING LAST FLOWERING

4. MATURITY (50% Flowering):

 NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS NO. OF DAYS LATER THAN 4 = LEMHI 5 = NUGAINES 6 = LEEDS
7 = Mexicali 75

5. PLANT HEIGHT (From soil level to top of head):

 CM. HIGH CM. TALLER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS CM. SHORTER THAN 4 = LEMHI 5 = NUGAINES 6 = LEEDS
7 = Mexicali 75

6. PLANT COLOR AT BOOTING (See reverse):

 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHR COLOR:

 1 = YELLOW 2 = PURPLE

8. STEM:

 Anthocyanin: 1 = ABSENT 2 = PRESENT Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT NO. OF NODES (Originating from node above ground) Waxy bloom: 1 = ABSENT 2 = PRESENT Internodes: 1 = HOLLOW 2 = SOLID CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

 Anthocyanin: 1 = ABSENT 2 = PRESENT Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

 Flag leaf at booting stage: 1 = ERECT 2 = RECURVED
3 = OTHER (Specify): Flag leaf: 1 = NOT TWISTED 2 = TWISTED Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT MM. LEAF WIDTH (First leaf below flag leaf) CM. LEAF LENGTH (First leaf below flag leaf):

11. HEAD:

2 ☒ Density: 1 = LAX 2 = DENSE
☒ 5/17/82

4 ☐ Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
4 = OTHER (Specify) Oblong

4 ☐ Awedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

7 ☐ Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
5 = BROWN 6 = BLACK 7 = OTHER (Specify): White heads with lower half of awns being black.

☒ 9 ☒ 5/17/82 CM. LENGTH

1 ☐ 9 MM. WIDTH

awn = being tan at top and progressively dark at bottom.
5/17/82

12. GLUMES AT MATURITY:

3 ☐ Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)
3 = LONG (CA. 9 mm.)

3 ☐ Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
3 = WIDE (CA. 4 mm.)

2 ☐ 1 Glabrous 2 Pubescent

4 ☐ Shoulder 1 = WANTING 2 = OBLIQUE 3 = ROUNDED
shape: 4 = SQUARE 5 = ELEVATED 6 = APICULATE

3 ☐ Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

4 ☒ 4/27/82

13. COLEOPTILE COLOR:

1 ☐ 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

1 ☐ 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

3 ☐ 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

3 ☐ Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

2 ☐ Cheek: 1 = ROUNDED 2 = ANGULAR

1 ☐ Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

1 ☐ Brush: 1 = NOT COLLARED 2 = COLLARED

☐ Phenol reaction 1 = IVORY 2 = FAWN 3 = LT. BROWN
(See instructions): 4 = BROWN 5 = BLACK

2 ☐ Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify)

0 ☐ 8 MM. LENGTH

0 ☐ 4 MM. WIDTH

6 ☐ 1 GM. PER 1000 SEEDS

17. SEED CREASE:

2 ☐ Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'
2 = 80% OR LESS OF KERNEL 'CHRIS'
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

2 ☐ Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'
2 = 35% OR LESS OF KERNEL 'CHRIS'
3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

0 ☐ STEM RUST (Races)

0 ☐ LEAF RUST (Races)

0 ☐ STRIPE RUST (Races)

0 ☐ LOOSE SMUT

0 ☐ POWDERY MILDEW

0 ☐ BUNT

☐ OTHER (Specify)

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

0 ☐ SAWFLY

0 ☐ APHID (Bydv.)

0 ☐ GREEN BUG

0 ☐ CEREAL LEAF BEETLE

☐ OTHER (Specify)

HESSIAN FLY

RACES:

0 ☐ GP 0 ☐ A 0 ☐ B 0 ☐ C

0 ☐ D 0 ☐ E 0 ☐ F 0 ☐ G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Mexicali 75	Seed size	Mexicali 75
Leaf size	Mexicali 75	Seed shape	---
Leaf color	Mexicali 75	Coleoptile elongation	---
Leaf carriage	---	Seedling pigmentation	---

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.



EXHIBIT D (Revised)

Data Indicative of Novelty

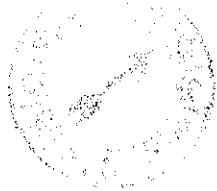
D-5003 was evaluated in Germain's Yield Trials in 1979, 1980, and 1981, demonstrating superior yield characteristics over other durums grown in California and Arizona. D-5003 was tested extensively in the University of California 1981 Regional Cereal Trials.

D-5003 most closely resembles Produra, since both are semi-dwarfs with black awns; however, D-5003's awns become lighter at maturity than Produra, and D-5003 is 5-8 cm. shorter than Produra and approximately 10 days later in maturity. D-5003 also differs from Produra in that D-5003 has anthocyanin present in the auricles, whereas it is absent in Produra, and Produra has hairy auricles, whereas D-5003 is absent of hairiness. Another distinguishing characteristic is the twisted flag leaf of D-5003, whereas Produra is not twisted.

Table I shows comparative grain yields of D-5003, Mexicali 75 and Aldura. When comparing yields of these three varieties in the same trials, D-5003 shows a 25% yield advantage over Mexicali 75 and a 6% yield advantage over Aldura.

Table II indicates the lodging resistance of D-5003 to be superior to Mexicali 75 and equal to Aldura.

Table III shows that D-5003 is susceptible to yellow berry and Mexicali 75 and Aldura being resistant.



8200103

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EXHIBIT E

Statement of Applicant's Ownership

Germain's, Inc., Fresno, California believes it is the sole, original and first breeder of D-5003 Durum Wheat for which it solicits a Certificate of Protection.

STATE=ARIZONA STATION=SIERRA VISTA NURSERY=SPECIALS

VARIETY	STD TW	1000 KWT	X LG SM	WHT PRO	TOT EXT	SEMO EXT	DUS MX	SPK MIN	SEMO FALL NO	VI	FIRM	RES	VALU	** TW	KW	SM	WP	TX	SA	DU	SK	SP	VI	FR
1981 STANDARD	S	61.7	39.5	28	2	15.1	75.4	53.0																
ALDURA		59.7	38.8	35	2	12.9	73.4	53.4																
GEN		60.5	45.2	59	1	12.8	74.9	54.9																
JORI		59.5	44.2	58	2	13.4	73.4	53.3																
MEXICALI		59.2	48.8	67	1	12.1	75.3	55.0																
PRODURA		59.2	38.2	41	3	14.1	73.5	55.3																
1000 D		58.1	45.0	62	1	13.2	72.8	55.2																
5003		59.4	44.2	65	1	12.6	75.7	55.6																

DEFICIENCIES
 TW KW SM WP TX SA DU SK SP VI FR
 AVG OF STANDARDS 61.7 39.5 28 2 15.1 75.4 53.0 50 13.4 9.0 5.53
 MINOR FAULTING VALUES 59.5 37.4 7 12.5 72.9 50.0 60 11.5 8.0 4.03
 MAJOR FAULTING VALUES 58.6 34.4 12 11.5 71.9 49.0 65 11.0 7.5 3.28

** EVALUATION 1= NO PROMISE, 2= LITTLE PROMISE, 3= SOME PROMISE, 4= GOOD PROMISE

STATE=ARIZONA STATION=SIERRA VISTA NURSERY=SPECIALS

VARIETY	STD TW	1000 KWT	X LG SM	WHT PRO	TOT EXT	SEMO EXT	DUS MX	SPK MIN	SEMO FALL NO	VI	FIRM	RES	VALU	** TW	KW	SM	WP	TX	SA	DU	SK	SP	VI	FR
1981 STANDARD	S	61.7	39.5	28	2	15.1	75.4	53.0																
ALDURA		62.8	46.5	77	0	13.5	75.8	55.4																
GEN		63.8	54.3	87	0	12.8	76.7	56.2																
JORI		62.0	57.1	86	0	14.9	75.6	55.7																
MEXICALI		61.9	56.8	85	1	12.4	77.6	56.7																
PRODURA		62.9	47.1	74	1	14.0	75.4	55.2																
1000 D		61.1	51.5	80	1	13.6	74.0	55.4																
5003		61.9	54.6	86	1	12.7	77.2	56.3																

DEFICIENCIES
 TW KW SM WP TX SA DU SK SP VI FR
 AVG OF STANDARDS 61.7 39.5 28 2 15.1 75.4 53.0 50 13.4 9.0 5.53
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STATE=ARIZONA STATION=MOHAVE VALLEY NURSERY=SPECIALS

VARIETY	STD TW	1000 KWT	X LG SM	WHT PRO	TOT EXT	SEMO EXT	DUS MX	SPK MIN	SEMO FALL NO	VI	FIRM	RES	VALU	** TW	KW	SM	WP	TX	SA	DU	SK	SP	VI	FR
1981 STANDARD	S	61.7	39.5	28	2	15.1	75.4	53.0																
ALDURA		61.9	45.2	68	0	9.8	75.0	52.2																
GEN		61.5	54.6	88	0	11.1	75.6	52.3																
JORI		61.8	51.8	77	1	11.1	75.6	52.3																
MEXICALI		60.0	50.8	43	1	9.2	76.1	48.5																
PRODURA		62.2	45.7	71	1	10.9	75.3	52.3																
1000 D		58.5	49.3	80	0	10.0	74.8	49.7																
5003		60.2	49.5	80	1	9.9	74.8	50.3																

DEFICIENCIES
 TW KW SM WP TX SA DU SK SP VI FR
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** EVALUATION 1= NO PROMISE, 2= LITTLE PROMISE, 3= SOME PROMISE, 4= GOOD PROMISE

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Area of Adaptation

D-5003 can be grown in all irrigated durum growing areas of California and Arizona. D-5003 has not been evaluated in other areas of the United States. It is recommended that D-5003 be grown as a feed grain due to its susceptibility to yellow berry, although by proper fertility and irrigation management, the percentage of yellow berry can be reduced.

8200103

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TABLE II
Lodging Percent

	<u>D-5003</u>	<u>Mexicali 75</u>	<u>Aldura</u>
Kings County	3%	14%	3%
Kings County	3%		3%
U.C.D.	3%		3%
Tulare County	2%		0%
Average	2.75%	14.0%	2.25%

TABLE III
Yellow Berry Percentage

	<u>D-5003</u>	<u>Mexicali 75</u>	<u>Aldura</u>
Kings County	40%	4%	3%
Tulare County	46%		5%
Sutter County	96%		30%
U.C.D.	10%		4%
Arizona	14%	6%	1%
Average	41.0%	5.0%	8.6%